WHAT IS CLAIMED IS:

1   1.   A computer implemented method for queue order notification comprising:

2   (a)   determining a current position of a patron in a queue;

3   (b)   determining a current estimated time remaining for said patron using
4   the current position of the patron and a selected set of historical data; and

5   (c)   transmitting queue order information to the patron using a preselected
6   communication channel, and wherein, if the preselected communication channel is a
7   duplex channel, the queue order information comprises a patron-selectable set of
8   queue order information, the patron-selectable set including the estimated time
9   remaining and the current position of the patron in the queue.

1   2.   The method of claim 1 wherein the set of historical data comprises a queue
2   servicing rate for a preceding time interval, the estimated time remaining determined
3   using a linear extrapolation with said queue servicing rate.

1   3.   The method of claim 2 wherein the queue servicing rate comprises a rate at
2   which patrons have been served between a current time and a preceding notification
3   time and wherein the set of historical data further comprises seasonal average patron
4   service rates.

1   4.   The method of claim 1 wherein the steps (a), (b) and (c) are repeated at a
2   preselected notification criterion, and wherein, if the communication channel is a
3   duplex channel, the preselected notification interval comprises a patron-selected
4   notification criterion.

1   5.   The method of claim 4 wherein the patron-selected notification criterion

2   comprises one of a set including a preselected notification time interval and a

3   preselected queue position.

1   6.   The method of claim 1 further comprising:

2   (d) notifying the patron upon reaching a head of the queue using the

3   communication channel; and

4   (e) if the patron fails to respond after an expiry of a predetermined time

5   interval after step (d), moving the patron to another position within the queue.

1   7.   The method of claim 6, wherein the another position within the queue is an

2   end of the queue.

1   8.   The method of claim 1 further comprising:

2   (d)   if the patron is at the head of the queue, determining if the patron can

3   be accommodated; and

4   (e)   if the patron cannot be accommodated, interchanging the current

5   position of the patron and position of a next patron in the queue.

1   9.   A computer program product embodied in a tangible storage medium, the

2   program product for queue order notification comprising programming instructions

3   for:

4   (a)   determining a current position of a patron in a queue for receiving a

5   service from a service provider;

6   (b)   determining, a current estimated time remaining for said patron using

7   the current position of the patron and a selected set of historical data; and

8   (c)   transmitting queue order information to the patron using a preselected

9   communication channel, and wherein, if the preselected communication channel is a

10   duplex channel, the queue order information comprises a patron-selectable set of

11   queue-order information, the patron-selectable set including the estimated time

12   remaining and the current position of the patron in the queue.

1   10.   The program product of claim 9 herein the set of historical data comprises a

2   queue servicing rate for a preceding time interval, the estimated time remaining

3   determined using a linear extrapolation with said queue servicing rate.

1   11.   The program product of claim 10 wherein the queue servicing rate comprises

2   a rate at which patrons have been served between a current time and a preceding

3   notification time and wherein the set of historical data further comprises seasonal

4   average patron service rates.

1   12.   The program product of claim 9 further comprising programming instructions

2   for repeating (a), (b) and (c) at a preselected notification criterion, and wherein, if the

3   communication channel is a duplex channel, the preselected notification interval

4   comprises a patron-selected notification criterion.

1   13.   The program product of claim 12 wherein the patron-selected notification

2   criterion comprises one of a set including a preselected notification time interval and

3   a preselected queue position.

1   14.   The program product of claim 9 further comprising programming instructions

2   for:

3   (d) notifying the patron upon reaching a head of the queue using the

4   communication channel; and

5   (e) if the patron fails to respond after an expiry of a predetermined time

6   interval after step (d), moving the patron to an end of the queue.

1   15.   The program product of claim 14 wherein the another position within the

2   queue is an end of the queue.

1   16.   The program product of claim 9 further comprising programming instructions

2   for:

3   (d)   if the patron is at the head of the queue, determining if the patron can

4   be accommodated; and

5   (e)   if the patron cannot be accommodated, interchanging the current

6   position of the patron and position of a next patron in the queue.

1   17.   A data processing system comprising:

2   (a)   circuitry operable for determining a current position of a patron in a

3   queue for receiving a service from a service provider;

4   (b)   circuitry operable for determining, a current estimated time remaining

5   for said patron using the current position of the patron and a selected set of historical

6   data; and

7   (c)   circuitry operable for transmitting queue order information to the

8   patron using a preselected communication channel, and wherein, if the preselected

9   communication channel is a duplex channel, the queue order information comprises a

10   patron-selectable set of queue-order information, the patron-selectable set including

11   the estimated time remaining and the current position of the patron in the queue.

1   18.   The data processing system of claim 17 wherein the set of historical data

2   comprises a queue servicing rate for a preceding time interval, the estimated time

3   remaining determined using a linear extrapolation with said queue servicing rate.

1   19.   The data processing system of claim 18 wherein the queue servicing rate

2   comprises a rate at which patrons have been served between a current time and a

3   preceding notification time and wherein the set of historical data further comprises

4   seasonal average patron service rates.

1 20. The data processing system of claim 17 wherein (a), (b) and (c) further

2 comprise circuitry operable for, patron at a preselected notification criterion,

3 repeating the operations of:

4 (i) determining a current position of the patron;

5 (ii) determining a current estimated time remaining; and

6 (iii) transmitting queue order information to the patron.

1 21. The data processing system product of claim 20 wherein the patron-selected

2 notification criterion comprises one of a set including a preselected notification time

3 interval and a preselected queue position.

1 22. The data processing system of claim 17 further comprising:

2 (d) circuitry operable for notifying the patron upon reaching a head of the

3 queue using the communication channel; and

4 (e) circuitry operable for, if the patron fails to respond after an expiry of a

5 predetermined time interval the operation in (d), moving the patron to an end of the

6 queue.

1 23. The data processing system of claim 22 wherein the another position within

2 the queue is an end of the queue.

1   24.   The data processing system of claim 17 further comprising:

2   (d)   circuitry operable for, if the patron is at the head of the queue,

3   determining if the patron can be accommodated; and

4   (e)   circuitry operable for, if the patron cannot be accommodated,

5   interchanging the current position of the patron and position of a next patron in the

6   queue.